

## CLAIMS

- 1           1.       An apparatus for dissecting tissue in a substantially uniform plane of  
2       dissection, the apparatus comprising:  
3           a housing configured to be advanced under a tissue layer and control one of a depth of  
4       dissection or tissue flap thickness; housing being configured to thermally shield at least a  
5       portion of the tissue flap;  
6           a roller coupled to housing, the roller configured to smoothly advance housing over  
7       tissue; and  
8           an energy delivery device coupled to housing, the energy delivery device configured  
9       to be coupled to an energy source, the energy delivery device having a geometry substantially  
10      defining a plane of dissection.
- 1           2.       An electro-surgical apparatus, comprising:  
2       an electrode with a cutting edge; and  
3       a housing coupled to the electrode and including a top with a top proximal section and  
4       a bottom with a bottom proximal section, the top proximal section having a geometry that  
5       facilitates creation of a skin flap with a substantially uniform thickness that includes a skin  
6       layer and an adjacent layer of subcutaneous tissue, the bottom proximal section having a  
7       geometry that preserves a plane of tissue that is positioned adjacent to the adjacent layer of  
8       subcutaneous tissue.
- 1           3.       The apparatus of claim 2, wherein the housing includes a gap between the top  
2       proximal section and the bottom proximal section.
- 1           4.       The apparatus of claim 2, wherein the housing includes a chamber that  
2       facilitates creation of the skin flap.
- 1           5.       The apparatus of claim 2, wherein the bottom proximal section has a most  
2       proximal point at "A", and the top proximal section has a most proximal point at "B",  
3       wherein A is more proximal than B.
- 1           6.       The apparatus of claim 5, wherein the bottom proximal section is defined by  
2       point A and a more distal point "C".

1           7.       The system of claim 6, wherein the electrode extends from Point A to point B.

1           8.       The system of claim 7, wherein the electrode forms the hypotenuse of a  
2 triangle defined by points A, B, and a point "D" which is positioned at a more proximal  
3 position than point B.

1           9.       The system of claim 8, wherein the bottom proximal section forms a  
2 hypotenuse of a triangle defined by points A, C and a point "E", wherein E is more proximal  
3 than point C.

1           10.      The system of claim 9, wherein the distance between points D and A is 1 mm  
2 to 2.5 cm.

1           11.      The system of claim 9, wherein the distance between points D and B is 0 mm  
2 to 1.5 cm.

1           12.      The system of claim 9, wherein the distance between points A and E is 0mm  
2 to 1.5 cm.

1           13.      The system of claim 9, wherein the distance between points  
2 E and C is 0 mm to 1.5 cm.

1           14.      The apparatus of claim 2, further comprising:  
2 an insulator coupled to at least a portion of the electrode.

1           15.      A dissection apparatus, comprising:  
2 an energy delivery device with an energy delivery surface; and  
3 a housing coupled to the energy delivery device, the housing including a guide  
4 configured to permit the energy delivery surface provide a surgical plane of dissection to free  
5 a skin section and an underlying thickness of subcutaneous tissue while preserving an  
6 adjacent plane of tissue.

1           16.      The apparatus of claim 15, wherein the energy delivery device is an electro-  
2 magnetic energy delivery device.

1           17.      The apparatus of claim 15, wherein the energy delivery device is an RF  
2 electrode.

1           18.     The apparatus of claim 17, wherein the energy delivery surface is a cutting  
2 surface.

1           19.     A tissue dissection apparatus, comprising:  
2           an electrosurgical energy delivery device with an electrosurgical cutting edge; and  
3           a housing coupled to the energy delivery device, the housing including a guard that  
4 guides and facilitates a dissection to create a surgical plane of dissection to free a skin section  
5 and an underlying thickness of subcutaneous tissue while preserving an adjacent plane of  
6 tissue.

1           20.     A method of creating a tissue effect, comprising:  
2           providing an electro-surgical device that includes an energy delivery device with an  
3 energy delivery surface, a housing coupled to the electrode with a guide that provides for  
4 cutting a skin layer and an underlying thickness of subcutaneous tissue while preserving an  
5 adjacent plane of tissue;  
6           positioning the energy delivery surface at the skin surface;  
7           delivering sufficient energy from the energy delivery device to cut the skin surface  
8 and the underlying thickness of subcutaneous tissue at a selected depth while preserving the  
9 adjacent plane of tissue.

1           21.     The method of claim 20, wherein the selected depth is no more than 2 inches.

1           22.     The method of claim 20, wherein the selected depth is no more than 1 inch.

1           23.     The method of claim 20, wherein the selected depth is no more than 0.75 inch.

1           24.     The method of claim 20, wherein the selected depth is no more than 0.50 inch.

1           25.     The method of claim 20, wherein the selected depth is no more than 0.25 inch.

1           26.     A method of creating a tissue effect, comprising:  
2           providing an electro-surgical device that includes an electrode with a cutting edge, a  
3 housing coupled to the electrode with a guide that provides for cutting a skin layer and an  
4 underlying thickness of subcutaneous tissue while preserving an adjacent plane of tissue;  
5           positioning the cutting edge at the skin surface;  
6           cutting a skin surface and a layer of an adjacent underlying tissue; and

7           creating a tissue effect.

1           27.     The method of claim 26, wherein the tissue effect is formation of a plane of an  
2     electrosurgical flap dissection that provides a uniform flap thickness that includes the layer of  
3     the adjacent underlying tissue.

1           28.     The method of claim 26, wherein the tissue effect is formation of a plane of  
2     electrosurgical flap dissection that provides a variable flap thickness.

1           29.     The method of claim 26, wherein the tissue effect is a reduced surface area in  
2     the plane of dissection due to flap uniformity.

1           30.     The method of claim 26, wherein the tissue effect is uniform plane of wound  
2     healing with a reduction on volumetric scarring within the plane of dissection.

1           31.     The method of claim 26, wherein the tissue effect is thermal tightening of the  
2     dissected skin flap.

1           32.     The method of claim 26, wherein the tissue effect is a thermal molecular  
2     collagen contraction within the plane of dissection.

1           33.     The method of claim 26, wherein the tissue effect is a wound healing  
2     contraction within the plane of dissection.

1           34.     The method of claim 26, wherein the tissue effect is a reduction in iatrogenic  
2     surface contour irregularities of the flap surface.

1           35.     The method of claim 26, wherein the tissue effect is a uniform release of  
2     subjacent soft tissue structures.